

Hyperloop Miami.

An aerial night photograph of Miami, Florida, showing the city skyline and the ocean. A glowing, orange-yellow line representing a Hyperloop path is superimposed on the image, starting from the foreground and extending towards the horizon. The path is flanked by palm trees and other vegetation. The city lights are visible in the background, and the ocean is on the left side of the image.

presented by Alice N. Bravo, P.E.

Miami-Dade County | Department of Transportation & Public Works

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A STRONG PARTNERSHIP

three regional agencies collaborating for the development of a Livable Miami-Dade

as the corridor is developed further, additional project partners and stakeholders will be identified and added to the corridor development team, including relevant government agencies, institutional investors, infrastructure developers, technology companies and service providers.

Hyperloop Miami Corridor

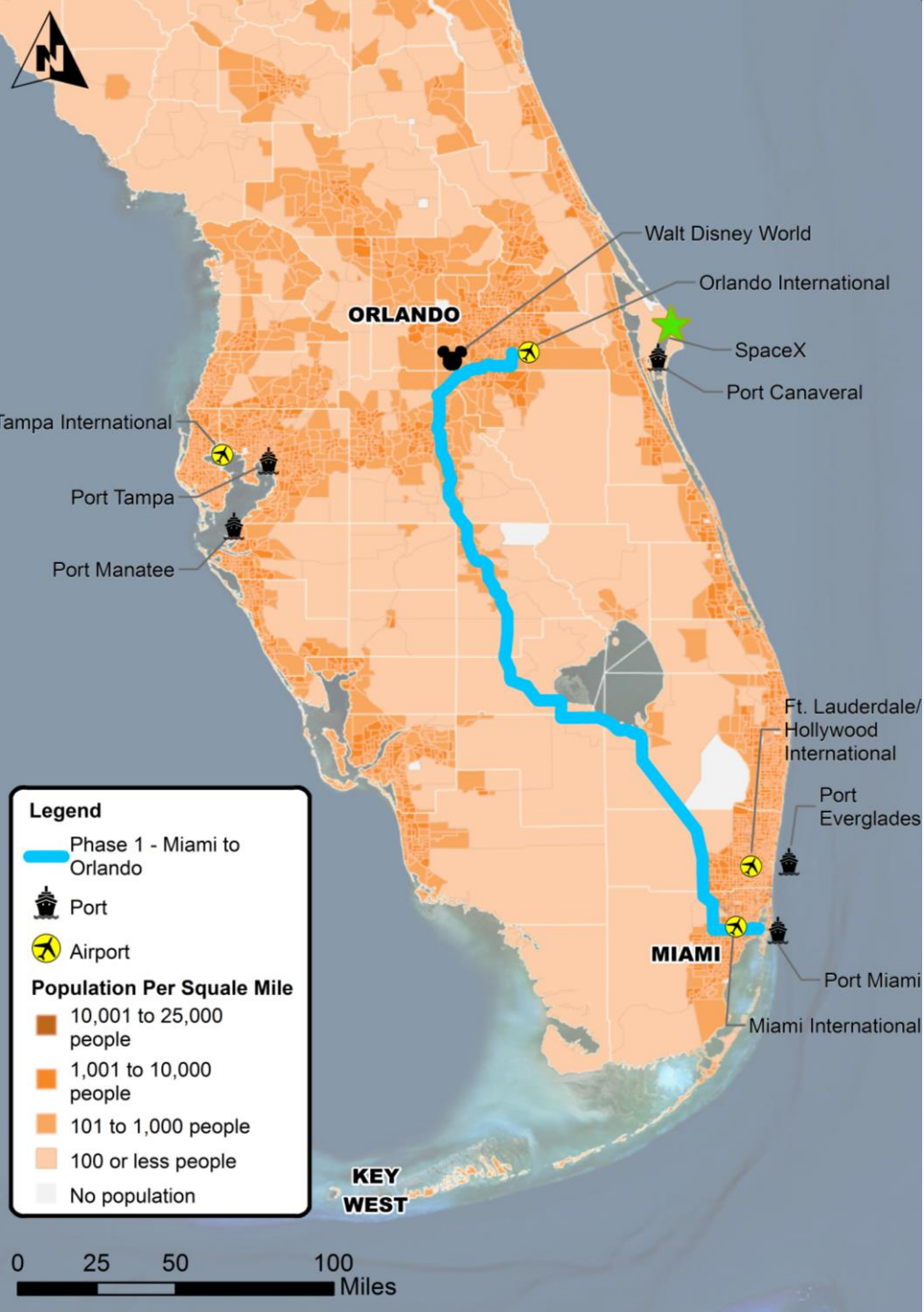
Miami-Dade Segment

10-mile corridor from the Miami Intermodal Center (MIC) to the Dolphin Mall in the west.

Miami to Orlando Segment

The alignment will move north along the rural areas of South Florida to the Orlando/Disney World area, connecting South Florida to the Greater Orlando area by a 30-minute ride.

Actual travel time by car is 4 hours



Network Map

- The corridor follows an existing right-of-way from the MIC to the west along SR 836 and US Highway 27 – a major arterial road connecting Miami with counties to the north and west of Lake Okeechobee to connect further to Orlando.
- In the Orlando area, the route would likely remain close to the principal transportation arteries of I-4 to the front door of Walt Disney World and then following SR 417 which provides a direct connection to Orlando International Airport (MCO).
- Miami/Orlando corridor attracts more than **80 million annual visitors** from the North, the Midwest and the South and the rest of the world.

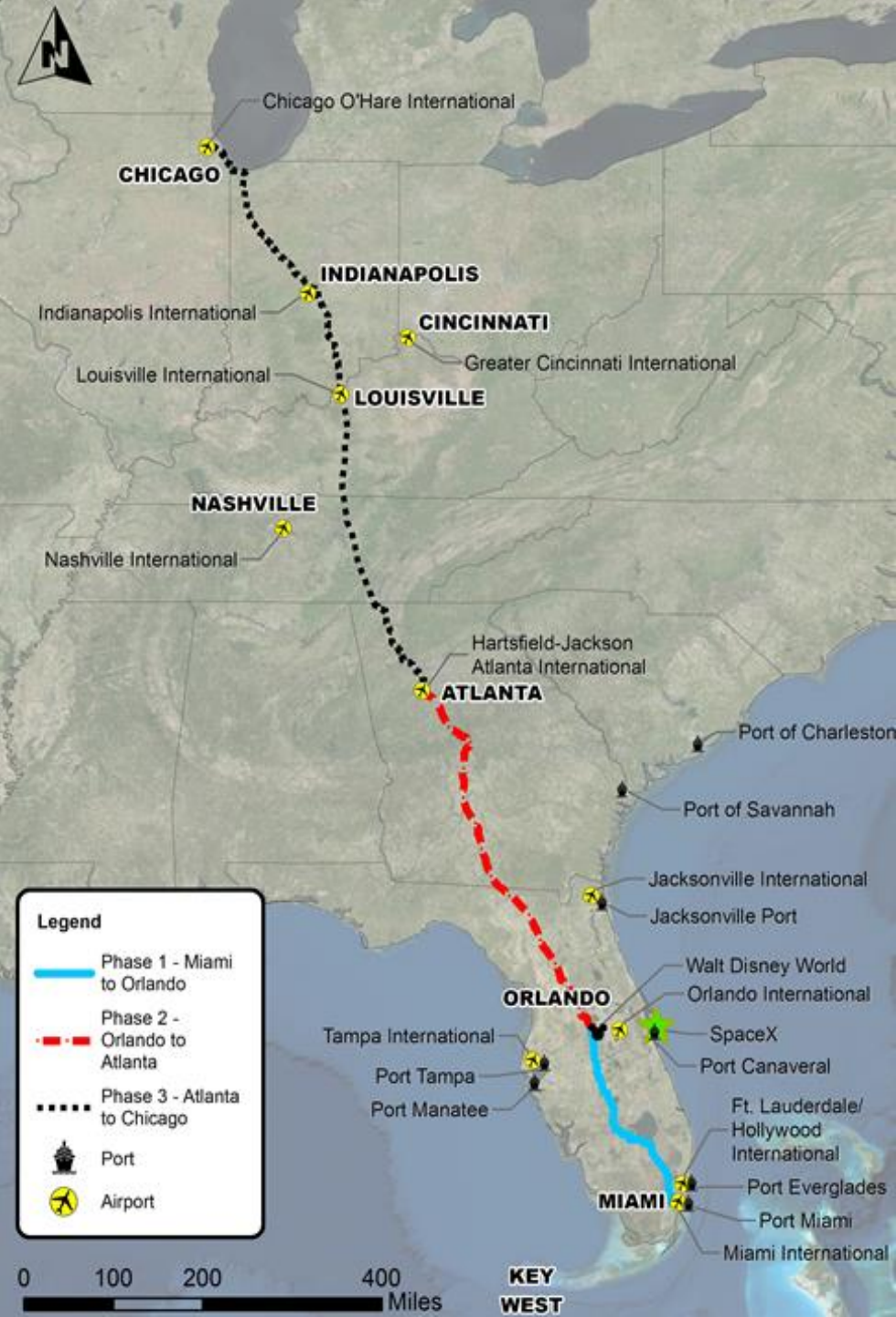


One Goal
use Hyperloop to
create new travel
opportunities and
services along one of
America's fastest
growing passenger,
tourism and freight
corridors connecting
Miami to Orlando,
Atlanta, and ultimately
Chicago.



One Goal

connect the nation's traditional economic centers in the **Midwest** with the growing **southern region**, home of the most populous, fastest growing states and economies, and with projections for continued growth in both population and employment



Overview

The initial segment is a 240-mile Hyperloop segment connecting Miami with Orlando, Florida with potential extension to the North, South, West and East.

Phased Approach

The corridor is envisioned to be developed in multiple phases:

Phase 1: Miami to Orlando, 240 mi.

Phase 2: Orlando to Atlanta, 420 mi

Phase 3: Atlanta to Chicago, 780 mi.

A nighttime photograph of a city skyline, likely Miami, viewed from an elevated position. On the left, a tall, curved white building with many balconies is illuminated. In the foreground, a multi-lane highway bridge spans a body of water, with light trails from cars visible. The background shows a dense cluster of skyscrapers along the waterfront, their lights reflecting on the water. The sky is a deep blue.

Miami, Broward and Palm Beach counties
2015 Population: 7 million
Annual Visitors: 20 million

A full-body image of Mickey Mouse standing in front of Cinderella Castle at Walt Disney World. Mickey is wearing his signature red shorts with white buttons, a white shirt with a yellow bow tie, and black shoes with white gloves. He has his arms outstretched in a welcoming gesture. The castle, with its iconic blue-roofed spires and white stone walls, is visible in the background under a clear blue sky. Some greenery and a yellow umbrella are visible in the lower right foreground.

Orlando

Among the top 20
fastest growing
metropolitan areas

2015 Population:
3 million

Annual Visitors:
66 million, the
highest in the
country

Florida

- Nation's 3rd largest population
- 2015 population: 20 million
- 2040 population projection: 29 million
(91% of additional population from other states)
- 2015 out-of-state visitors: 105 million
- 2025 projection for out-of-state visitors: over 159 million





Major Traffic Generators

Busiest U.S. Airports by Number of Enplanements in 2015:

South Florida

- Miami International Airport (MIA): **22 million** (ranked 11th) and 2nd most international passengers with **10.5 million** incoming passengers.
- Fort Lauderdale-Hollywood International Airport (FLL), Broward County: **13 million** (ranked 21st)

Orlando

- Orlando International Airport (MCO): **18.8 million** (ranked 14th)
- MCO had the **largest increase (18.3%)** in international passengers from 2014 to 2015.
- Flights between MIA and MCO soar over 980,000 a year

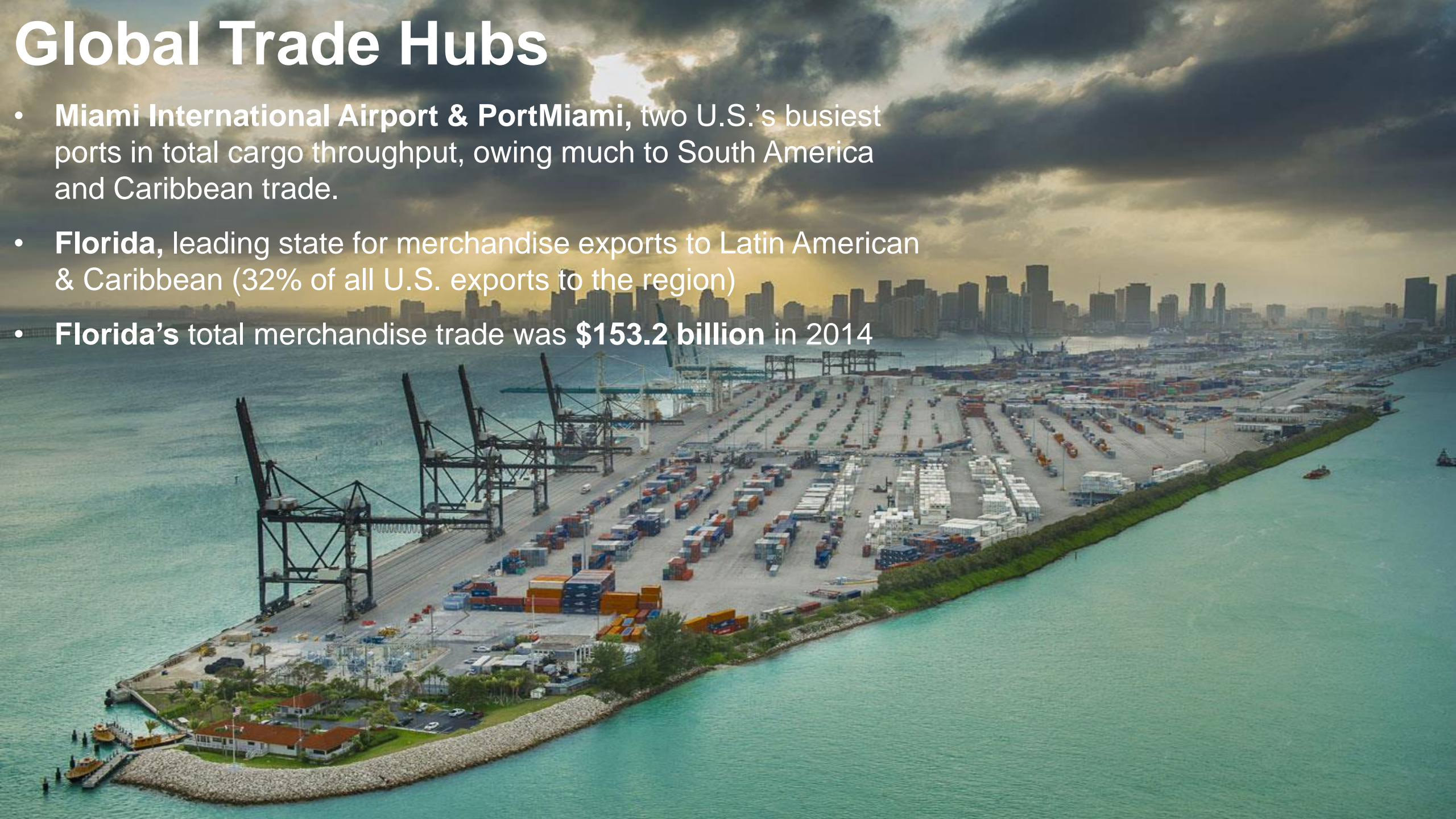
World's Busiest Cruise Ports:

- Port of Miami: 5 million passengers (ranked 1st)
 - Port Everglades, Fort Lauderdale (2nd)
 - Port Canaveral, Orlando Area (3rd)



Global Trade Hubs

- **Miami International Airport & PortMiami**, two U.S.'s busiest ports in total cargo throughput, owing much to South America and Caribbean trade.
- **Florida**, leading state for merchandise exports to Latin American & Caribbean (32% of all U.S. exports to the region)
- **Florida's** total merchandise trade was **\$153.2 billion** in 2014



BENEFITS OF FLORIDA'S HYPERLOOP CORRIDOR



**SAVES FUEL
CONSUMPTION**



**LOWERS COST
OF TRAVEL**



**SIGNIFICANTLY
REDUCES TRAVEL TIME**



**PROMOTES
MULTITASKING**



When Hours Become Minutes

The Hyperloop corridor in Florida will be a transformative infrastructure improvement, transforming this region and making it an integrated, futuristic, fast, and safe corridor, which will become the most travelled in the US.

This will lead to a transformative shrinking of the south Florida region making almost every major destination a feasible short commute and allowing the labor markets to merge and access the region effortlessly.

Time Matters

Expanding the possibilities for better education, jobs, healthcare, and quality of life.

Education

Students traveling to school and back among the various universities throughout Florida

Healthcare

Patients travelling to medical centers throughout Florida

Expanding the possibilities for better education, jobs, healthcare, and quality of life.

Commuting

People commuting from their homes to their jobs in less than an hour, instead of three or four

Other Benefits

Shipping fresh fruit grown in central Florida the same day for delivery in Coral Gables

Increased access to
natural resources and
entertainment





Liberating the Waterfront

Miami celebrates its waterfront but a large portion of Downtown is taken up by Port Miami complex. Miami Beach has already undertaken a globally recognized transformation/restoration of Ocean Drive, the Art Deco District and other neighborhoods. The Hyperloop would allow the City of Miami and the County to do the same to its prime waterfront real estate.

Faster Long-Distance Trips than Suburb Commute

Hyperloop will transform travel in South Florida across the entire spectrum of the population and improve congestion, safety and accessibility at the same time.





Capturing New Development Value

South Florida is home to urban sprawl in a significant way. Tax increment financing is a tool that can shape land use policy in a more egalitarian and sustainable fashion. Hyperloop can help structure future land use policies to adapt to a less auto-centric model.

In particular, the proposed Hyperloop will shift development along the US 27 Corridor. US 27 is a largely undeveloped corridor with potential for diagonally shifting transportation activity away from the heavily populated areas closer to the coast, where the Florida East Coast Railroad (FECR), Interstate 95 and Florida's Turnpike run in a



Just-in Time Deliveries

With shortened deliveries made within a region to region basis, the overall travel patterns and truck distribution rates will alter dramatically.

The capability of creating major nodes that local deliveries converge upon to send their deliveries to their destinations via Hyperloop. The need for long distance truck travel should be significantly reduced for high value cargo.

PORTMIAMI



Supply Chain Evolution

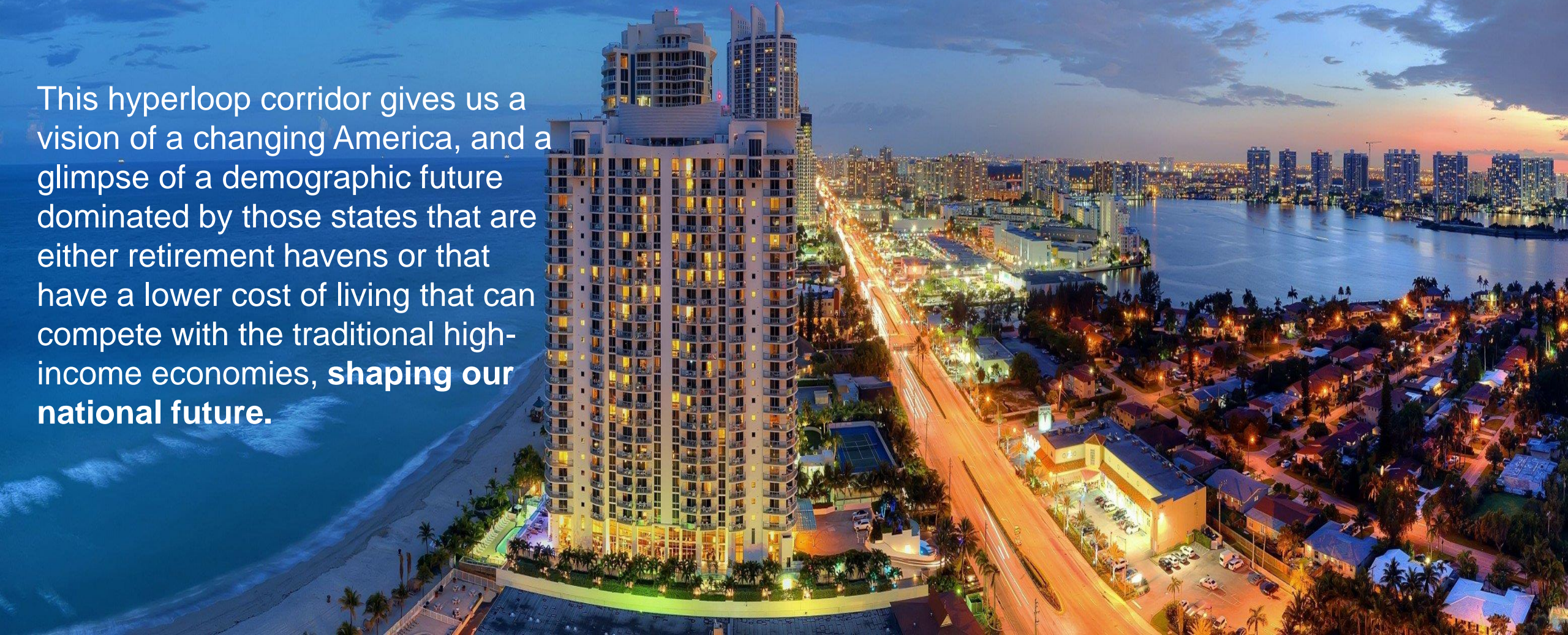
An opportunity to streamline and transform the supply chain for major industrial and commercial end-users.

- Reduce travel times & provide direct connections
- Reduce transfer times, minimizing dwell times and making the overall process cheaper and more efficient.
- Reduce chronic congestion
- Repurpose land uses

When Hyperloop Builds Powerhouse Economies

This corridor has the potential to transform two of the **nation's most visited cities**, Miami & Orlando, into one **mega-city**, connecting with major economic engines, **Atlanta and Chicago**. Incremental change in economic potential.

This hyperloop corridor gives us a vision of a changing America, and a glimpse of a demographic future dominated by those states that are either retirement havens or that have a lower cost of living that can compete with the traditional high-income economies, **shaping our national future.**



A scenic landscape featuring several large white wind turbines with blue-tipped blades standing on a rolling green hill. In the foreground, a dirt path leads through a field of tall, bright green grass. The background shows more green hills under a vibrant blue sky with scattered white clouds.

Resilient Mobility Solution

A wide-angle aerial photograph of a coastal city at sunset. The sky is filled with large, billowing clouds in shades of orange, yellow, and blue. A long, multi-lane bridge spans a wide body of water, with its lights reflecting on the surface. The city skyline is visible in the background, with numerous buildings and lights. In the foreground, a large, modern building with a curved roof is illuminated.

Future Demand

Total available market size for use of the Hyperloop between **Miami and Orlando** is **15 to 23 million annual passengers**

Need for Hyperloop Corridor

- **Population migration and increasing job trend**
 - Florida is the **3rd most populous** state with the largest population of older adults
 - Florida has the fastest population growth
 - Southeast Florida is the **4th most populous** urbanized region in the U.S.
- **Severe traffic congestion**
 - Miami is the **6th most congested** metro area in the U.S.
- **Long travel times**
- **Top tourism attractions**
 - Orlando is the most visited city in the U.S.
 - Greater Miami Area is the home to the world's largest cruise port and the travel gateway to Latin America

Government & Stakeholders

Miami-Orlando Segment South Florida Hyperloop Authority

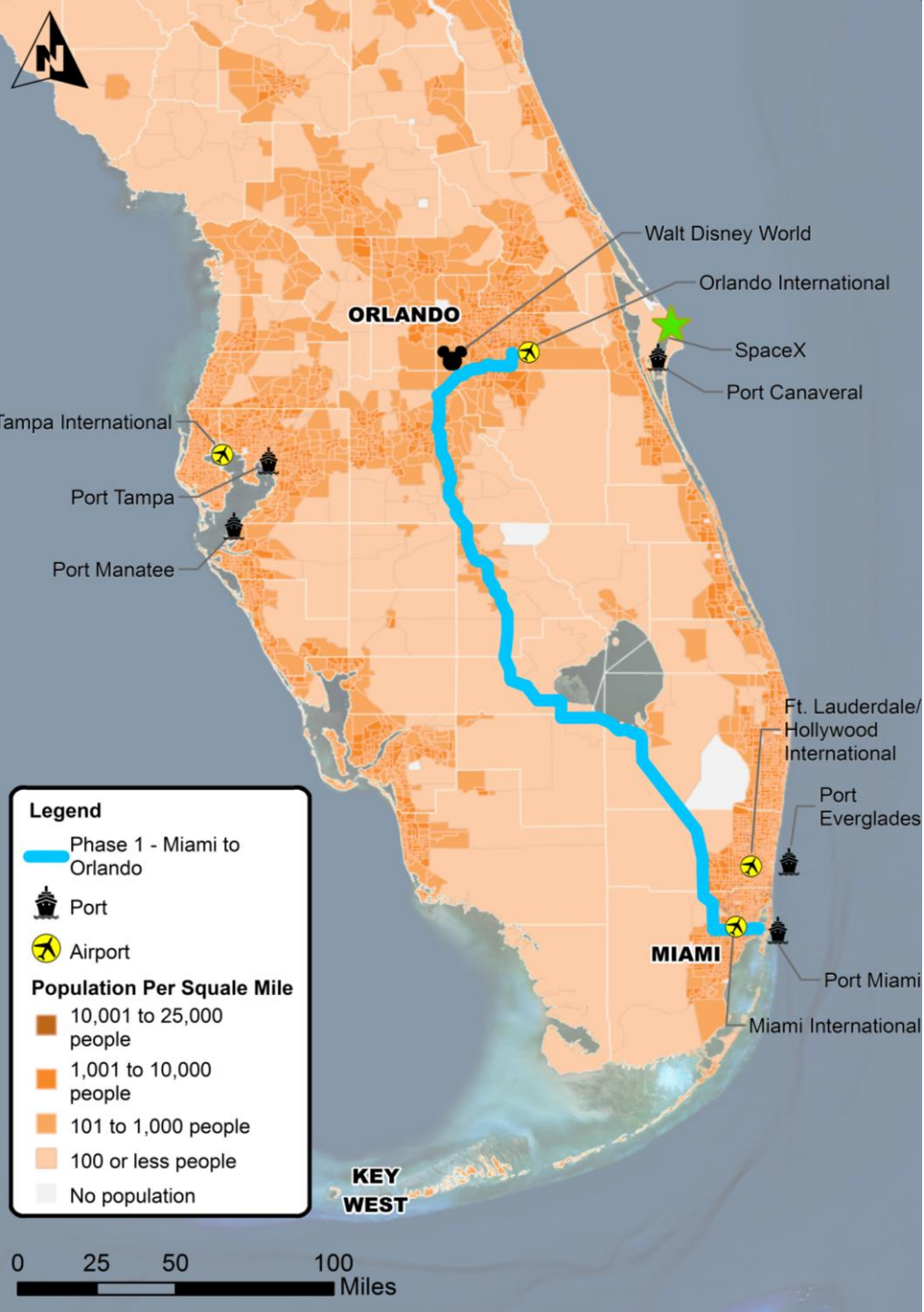
- Establishment of an authority comprised of all the key regulatory and oversight agencies along the corridor in the state of Florida.
- The Authority will undertake all of the necessary regulatory approvals and legislative undertakings necessary to develop the Hyperloop project throughout Florida
 - Examples: Florida High Speed Rail Authority

Orlando-Atlanta-Chicago Regional Partnerships

- Regional coalition comprised of different states along the corridor.
- The Coalition will bring to the table the key decision makers that have or will influence the operation of the Hyperloop corridor (DOTs, transportation authorities, transit and rail agencies, etc.)
 - Examples: I-95 Corridor Coalition, I-75 Mid-America Freight Coalition

Potential Investors Public and Private Partners

- Potential investors will form part of the Regional Coalition.
- Provide funding for the construction and eventual operation and maintenance of the Hyperloop system.



Known Topographical or Geological Challenges Along the Corridor

- Planning and providing a resilient design for sea level rise impacts and hurricanes
- Weak ground conditions and high water table in Florida make tunneling impractical
- Environmentally protected Everglades National Park will need to be treated in a sensitive manner to protect this invaluable natural resource
- Traversing through heavily populated areas in and around Miami and Orlando where land is at a premium, and community impacts need to be anticipated

Implementation Strategy

- **Infrastructure Investment:** the corridor passes through several cities, MPOs, DOTs and states; therefore a **multi-agency integrated approach** will need to be developed along with various federal agencies to structure, fund, permit and regulate the project's development
 - MPO's Cost-Feasible Long Range Transportation Plan (LRTP)
 - Public-Private Partnerships
 - Federal and State funding
- **Risk Mitigation:** environmental clearance and preliminary engineering phases will be completed to reduce risk for major transportation infrastructure projects



Today
2017

Quantify Benefits

Further explore the benefits of the corridor as it relates to a full network in the US

Near Future
2017

Corridor Development

Initiate NEPA study for segment 1 of the corridor to include Hyperloop. Initiate planning for other segments.

Short-Term
2018

Implementation

Pursue funding partnership.

**A Few Years
from Now**
2020

Design + Permitting

Follow regulatory procedures to obtain clearance for implementation.

Future Mobility
2025

Construction

Initiate construction and testing.

A Livable Miami-Dade



The Hyperloop has the capability of transforming this region in a manner that can benefit millions of people, particularly how they live, work and play while improving manufacturing and supply chains which can transform the regional economy